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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,253	11/26/2003	Peter Monta	RGBM-001/01US	6062
23419	7590	04/21/2005	EXAMINER	
COOLEY GODWARD, LLP			HOANG, THAI D	
3000 EL CAMINO REAL			ART UNIT	
5 PALO ALTO SQUARE			PAPER NUMBER	
PALO ALTO, CA 94306			2667	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6X

Office Action Summary	Application No.	Applicant(s)	
	10/723,253	MONTA ET AL.	
	Examiner	Art Unit	
	Thai D Hoang	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 41-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/7/05 AND 2/23/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not disclose or define a “subset of packets” as recited in claims 1, 3-4, 9, 12-14, 16, 22... of the application. Claims 2-21 and 23-40 are rejected because they depend on rejected claims 1 and 22 respectively.

The specification does not disclose to support the statement “adjusting a priority” and “adjusting said priority” as recited in claims 13-14 and 30-31.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The statement "mapping virtual addresses to page addresses" is not clear. It is confusing what is meant by "page address", since "page address" could be a virtual address, or a logical address, or a physical address.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-18, 20, 22-34, 36 and 38 are rejected under 35 U.S.C. 102(e) as being unpatentable by Ni, US Patent Application Publication No. 2002/0122387 A1.

Regarding claims 1 and 22, as best understood, Ni discloses an algorithm for time based queuing in network traffic engineering. Ni discloses the switch 100 receives packets from a plurality of digital streams at input ports 105, fig. 1, paragraph [0019] (receiving packets for each of said plurality of digital streams)

A queuing module 125 of the switch 100 classifies each packet of the plurality of packets to determine the flow information of the packet for storing at the memory buffer 120, fig. 1, paragraph [0019] (associating each of said packets with a respective stream of said plurality of digital streams);

wherein the classification based on the class of service, fig. 1, paragraph [0019] (determining that a subset of packets of one of said plurality of digital streams is to be processed before other subsets of packets)

Regarding claims 2 and 23, as best understood, Ni discloses the incoming packets stored at the memory buffer 120, fig. 1, paragraph [0019] lines 6-7 (storing said received packets in a buffer)

Regarding claims 3 and 24, as best understood, Ni discloses the switch includes a queuing module 125 configured to determine a flow of the packet, and to assign the packet in a queue based upon the flow of the packet, wherein the flow is determined based upon at least a class of service of the packet the switch contains a scheduling module 145 configured to schedule the transmission of the packet from the queue within a selected time interval before the transmission of a next outgoing packet. Therefore, it indicates that the flow control module 126 and scheduler 145 select and retrieve packet from the buffer 120 for processing; fig. 1, paragraph [0010] (selecting said subset of packets for processing; and retrieving said subset of packets from said buffer).

Regarding claim 4, as best understood, in fig. 2a-b, Ni discloses the packets are retrieved in an order received (wherein said subset of packets is retrieved in an order received).

Regarding claims 5 and 25, as best understood, Ni discloses a plurality of queues in the memory buffer 120, wherein each queue represents each class of service, fig. 1, paragraphs [0019]-[0022] (assigning a priority to each of said plurality of digital streams).

Regarding claims 6 and 26, as best understood, Ni discloses the switch handles at least three types of traffic: voice, video and best effort, wherein voice and video have higher priority than best effort, paragraph [0020], [0047] (determining said subset of packets to be processed based on said one of said plurality of digital streams being associated with a highest priority).

Regarding claims 7-8 and 27-28, as best understood, Ni discloses a packet is transmitted within a selected time interval; paragraph [0010], [0028], and each packet is added a time stamp for monitoring and scheduling, paragraph [0047] (wherein said priority is representative of a deadline, and wherein said deadline is derived from a Decoding Time Stamp extracted from a header of an associated access unit).

Regarding claims 9-11, as best understood, Ni discloses the packets are voice and video packets, paragraph [0020], [0022], [0024], [0031] (wherein said subset of packets are sequenced, said subset of sequenced packets constituting an access unit, and wherein an access unit is a representation of a video frame and an audio frame).

Regarding claims 12-14 and 29-30, as best understood, Ni discloses if a packet having a new class of service (flow) enters the system, the invention creates and attaches a new header pointer to the link list. Otherwise, the pointer is added to the link list having the same class of service, paragraph [0022] (determining another subset of said one of said plurality of digital streams is associated with a new access unit; wherein determining said another subset is associated with said new access unit further comprises adjusting a priority associated with said one of said plurality of digital streams)

Regarding claims 15-16 and 32, as best understood, Ni discloses in figures 1-2 that the incoming packets are classified into a plurality of streams class of service based on information of the headers (parameters), paragraphs [0007]-[0010], [0019]-0022] (maintaining a state associated with each of said plurality of digital streams, wherein said state includes parameters for said processing said subset).

Regarding claims 17 and 34, as best understood, Ni discloses the incoming packets are video packets, paragraphs [0019]-[0025] (wherein said state includes pixel data representing at least one frame of video).

Regarding claims 18 and 35, as best understood, Ni discloses incoming packets are stored in the memory buffer 120, fig. 1, paragraph [0019] (allocating memory for storing said state).

Regarding claims 20 and 36, as best understood, Ni discloses the packets stored in the memory buffer 120 should be constructed in fixed size or variable size, paragraphs [0019], [0021] (wherein a memory is allocated in pages, where each of said pages is a contiguous memory unit of a fixed size).

Regarding claim 38, Ni discloses when the packets are initially received at the input ports 105, the queuing module 125 may retrieve a pointer from a link list and assign the pointer to each incoming packet or the cells of the packet. The assignment of the pointer from the link lists to an incoming packet may provide a link list addressing scheme which defines the storage location of the packet so that the packet may be retrieved and reassembled for transmission out of the output ports 110. It indicates that Ni's system perform a step of mapping a virtual address with a logical address of the

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packet stored in the memory buffer, paragraphs [0021] (comprising a translation look-aside buffer for mapping virtual addresses to page addresses).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 37 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ni as shown above

Regarding claims 21, 37 and 39, Ni does not disclose the system uses a free list to manage unallocated of space memory. However, the method of using a free list to manage unused space memory is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the free list into Ni's system in order to optimize memory capacity.

Regarding claim 40, Ni does not disclose the system comprises a cache for storing one or more packets. However, cache is well known in the field of storage device and processor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a cache into Ni's system in order to speed up the system since the time for retrieving packet for processing is reduced.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 5,844,890 A, Delp et al., "Communications cell scheduler and scheduling method for providing proportional use of network bandwidth."


US Patent No. 6,215,767 B1, Li, "Quality of service adjustment and traffic shaping on a multiple access network."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-18:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang


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4/18/05